

**SECRET**

OXC 5659

Copy 7 of 7

18 September 1963

MEMORANDUM FOR: Assistant Director, OSA

SUBJECT: Arc-50

25X1A 1. [ ] representative, briefed the staff 5 September on visual aids intended to assist us in training pilots and maintenance personnel as well as other administrative personnel interested in the status of equipment. As a result of this briefing and the subsequent discussions, it is my opinion that [ ] as presently developed is totally unsatisfactory for use in the OXCART vehicle.

25X1A 2. It was surprising to learn that the specifications provided to [ ] regarding development and installation of this equipment did not indicate our desires to use this equipment to provide range information to the pilot for both landing and inflight refueling. The only subject discussed by [ ] was inflight refueling and it was assumed through their coordination with LAC that a forty second delay in ranging information was acceptable. A four second delay also prevails in the azimuth presentation. Additionally, the test training film indicates that the pilot will make a radio call requesting ranging and upon confirmation from the other operator, he presses an interrogate button, and the other operator presses a response button, and the following forty seconds allows synchronization at which time he gets a one-time azimuth and one-time range reading. To obtain the next reading of azimuth this same sequence must be followed. I now get the picture of a receiver running at forty second intervals attempting to locate a tanker or an aircraft on a landing approach running a forty second interval before he realizes how close he may be in fact to the runway or tanker.

25X1A 3. This subject had been previously discussed with [ ] with [ ] Operations Staff who have also coordinated which would make the equipment satisfactory for their need. The purpose of this memorandum is a preliminary advisory as to the unacceptability of the equipment presently designed and to indicate my non-concurrence with the requirements as stated by [ ]

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4. New requirements provided to [ ] informally 25X1A  
were generally as follows:

a. Equipment must provide the capability to provide voice transmissions simultaneously with range and azimuth presentations.

b. A maximum of a four second delay in range and azimuth information is generally acceptable at ranges beyond 130 nautical miles.

c. A two second delay in range and azimuth presentation is acceptable between 100 nautical miles and 130 nautical miles.

d. A continuous range and azimuth display is required at all ranges less than 100 nautical miles.

e. The response to interrogation must be automatic in those areas where delays are mandatory.

5. To facilitate testing, pilot training and development of procedures, I have requested that an installation of this equipment in a F-101 be investigated, and that we be advised of its feasibility and cost. This vehicle will enable [ ] 25X1A  
to conduct uninterrupted test and training, particularly in the landing phase.

6. This entire subject has been discussed with Mr. John Parangoosky and he has generally concurred.

[ ] 25X1A  
Deputy for Field Activities, OSA

cc: D/TECH/OSA

25X1A

D/FA/OSA/[ ]:feh (18 Sept 63)

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